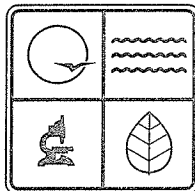


STATE OF MISSOURI  
DEPARTMENT OF NATURAL RESOURCES  
MISSOURI AIR CONSERVATION COMMISSION



PERMIT BOOK

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: **06 2006 - 004** Project Number: **2006-01-088**  
**PORT - 0452**

Owner: **Lake Ozark Sand & Gravel, Inc.**

Owner's Address: **14 Highway V, Eldon, MO 65026**

Installation Name: **Lake Ozark Sand & Gravel, Inc. PORT - 0452**

Installation Address: **18501 Superior Road, Waynesville, MO 65583**

Location Information: **Pulaski County, S30, T36N, R11W**

Application for Authority to Construct was made for:

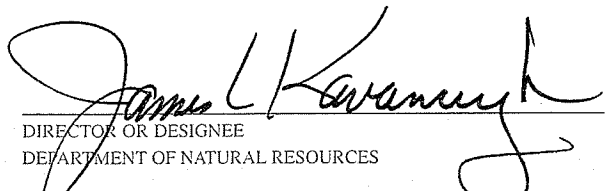
The modification of an existing portable rock crushing plant. Rock is processed through 1 crusher(s), 1 screen(s), 9 conveyor(s). The portable rock crushing plant has a maximum hourly design rate (MHDR) of 250.00 tons per hour (tph). Best Management Practices will be used in Connor, Vaughn Sites and Odie Quarry Site to control fugitive emissions from storage piles and haul roads. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

☐ Standard Conditions (on reverse) are applicable to this permit.

☒ Standard Conditions (on reverse) and Special Conditions (listed as attachments starting on page 2) are applicable to this permit.

JUN 3 2006

EFFECTIVE DATE

  
DIRECTOR OR DESIGNEE  
DEPARTMENT OF NATURAL RESOURCES

## STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

**You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review.** Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. Also, you must notify the Department of Natural Resources Regional Office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed Special Conditions as provided in RSMo 643.075. If you choose to appeal, the Air Pollution Control Program must receive your written declaration within 30 days of receipt of this permit.

If you choose not to appeal, this certificate, the project review, your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Department of Natural Resources has established the Outreach and Assistance Center to help in completing future applications or fielding complaints about the permitting process. You are invited to contact them at 1-800-361-4827 or (573) 526-6627, or in writing addressed to Outreach and Assistance Center, P.O. Box 176, Jefferson City, MO 65102-0176.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention Construction Permit Unit.

2006-01-088  
PORT - 0452

Lake Ozark Sand & Gravel, Inc.

14 Highway V, Eldon, MO 65026

Lake Ozark Sand & Gravel, Inc. PORT - 0452

18501 Superior Road, Waynesville, MO 65583

Pulaski County, S30, T36N, R11W

The modification of an existing portable rock crushing plant. Rock is processed through 1 crusher(s), 1 screen(s), 9 conveyor(s). The portable rock crushing plant has a maximum hourly design rate (MHDR) of 250.00 tons per hour (tph). Best Management Practices will be used in Connor, Vaughn Sites and Odie Quarry Site to control fugitive emissions from storage piles and haul roads . This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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Permit No.	
Project No.	2006-01-088

**GENERAL SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

*The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075); by the Missouri Rules listed in Title 10, Division 10 of the Codes of State Regulations (specifically 10 CSR 10-6.060); by 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority"; by 10 CSR 10-6.010 "Ambient Air Quality Standards" and 10 CSR 10-6.060 subsections (5)(D) and (6)(A); and by control measures requested by the applicant, in their permit application, to reduce the amount of air pollutants being emitted, in accordance with 10 CSR 10-6.060 paragraph (6)(E)3. Furthermore, one or more of the Subparts of 40 CFR Part 60, New Source Performance Standards (NSPS), applies to this installation.*

1. **Portable Equipment Identification Requirement**  
To assure that each component is properly identified as being a part of this portable rock crushing plant, (PORT - 0452) Lake Ozark Sand & Gravel, Inc. PORT - 0452 shall provide and maintain suitable, easily read permanent markings on each component of the plant. These markings shall be the equipment's serial number or a company assigned identification number that uniquely identifies the individual component. These identification numbers must be submitted to the Air Pollution Control Program no later than 15 days after start-up of the portable rock crushing plant.
2. **Relocation of Portable Rock Crushing Plant**
  - A. If this portable rock crushing plant moves from the initial site reviewed in this permit (Connor Quarries, Site ID No: 169-0039), then the portable rock crushing plant shall not be operated at any site location longer than 24 consecutive months without an intervening relocation.
  - B. A complete "Portable Source Relocation Request" application must be submitted to the Air Pollution Control Program prior to any relocation of this portable rock crushing plant.
3. If the portable rock crushing plant is moving to a site previously permitted, and if there are no other new plants at the site, then the application must be received by the Air Pollution Control Program at least seven (7) days prior to the relocation.
4. If the portable rock crushing plant is moving to a new site, or if there are other plants or equipment at the site that have not been evaluated for concurrent operation, then the application must be received by the Air Pollution Control Program at least twenty-one (21) days prior to the relocation. The application must include written notification of any concurrently operating plants.
5. **Operating Permit Applicability**  
If this portable rock crushing plant does not move from the initial site (Connor Quarries, Site ID No: 169-0039) within 24 consecutive months, then Lake Ozark Sand & Gravel, Inc PORT - 0452 shall submit an operating permit application. The Air Pollution Control Program must receive this application no later than 30 days after the exceedance of the 24 months.
6. **Record Keeping Requirement**  
The operator(s) shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.
7. **Superseding Condition**  
The conditions of this permit supersede all special conditions found in the previously issued construction permit(s) from the Air Pollution Control Program (Permit number 042002-012) and all of the associated amendments and relocations of these permits.

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Permit No.	
Project No.	2006-01-088

#### **SITE-SPECIFIC SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

Site ID No.: 169-0039  
 Site Name: Connor Quarries  
 Site Address: 18501 Superior Road, Waynesville, MO 65583  
 Site County: Pulaski County, S30, T36N, R11W

1. **Best Management Practices**  
 Lake Ozark Sand & Gravel, Inc. PORT - 0452 shall control fugitive emissions from all of the haul roads and stockpiles at this site by performing *Best Management Practices*, which include the usage of paving, chemical dust suppressants, or documented watering. These practices are defined in Attachment AA.
2. **National Ambient Air Quality Standards (NAAQS) Limitation for Particulate Matter Less Than Ten Microns in Diameter (PM<sub>10</sub>)**
  - A. The operator(s) for Lake Ozark Sand & Gravel, Inc. PORT - 0452's portable rock crushing plant shall ensure, while operating at this site, that the ambient impact of PM<sub>10</sub> at or beyond the nearest property boundary does not exceed 150 µg/m<sup>3</sup> in any 24-hour period, in accordance with the Federal NAAQS requirements (40 CFR 50.6).
  - B. To demonstrate compliance, the operator(s) shall maintain a daily record of material processed. Attachment A, *Daily Ambient PM<sub>10</sub> Impact Tracking Record*, or other equivalent form(s), will be used for this purpose.
3. **Moisture Content Testing Requirement for Inherent Moisture Content**
  - A. The inherent moisture content of the rock will reduce particulate emissions. Lake Ozark Sand & Gravel, Inc. PORT - 0452 claimed the inherent moisture content of the processed rock to be greater than or equal to 1.5 wt.%, which shall be verified by testing.
  - B. Testing shall be conducted according to approved methods, such as those prescribed by the *American Society for Testing Materials (ASTM D-2216 or C-566)*, EPA AP-42 Appendix C.2, or other method(s) approved by the Director. Lake Ozark Sand & Gravel, Inc. PORT - 0452 The first test shall be no later than 45 days after startup. Testing shall be conducted at least once every two years after the initial test, during the months of June through September, while the portable rock crushing plant is active at this site.
  - C. Test samples shall be obtained before processing (before entering the Primary Crusher) and after processing (prior to load-in to bins and/or storage piles). During the sample processing run only, any spray devices shall be turned off during the processing from which test samples are obtained. The written analytical report shall include the raw data and moisture content (wt.%) of each sample, the test date, and the original signature of the individual performing the test. Records shall be maintained on site and/or Lake Ozark Sand & Gravel's Central Office. These records shall be made available to Department of Natural Resources personnel upon request.
  - D. If the inherent moisture content result of the first test is less than 1.5 wt.%, a second test must be performed within 30 days. If the result of the second test is less than 1.5 wt.%, Lake Ozark Sand & Gravel, Inc. PORT - 0452 shall apply for a new construction permit to account for the revised information or install wet spray devices on the affected units.
4. **Prohibition Against Concurrent Operations Without Further APCP Review**
  - A. The portable rock crushing plant (PORT - 0452) is prohibited from operating whenever any other plant(s) are located at this site.
5. **Restriction on Process Configuration of Primary Emission Point(s)**  
 The maximum hourly design rate of the plant is equal to the sum of the design rate(s) of the primary emission point(s). Lake Ozark Sand & Gravel, Inc. PORT - 0452 has designated the following unit(s) as the primary emission point(s) of the portable rock crushing plant: primary crusher. Bypassing the primary emission point(s) for processing is prohibited.

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Permit No.	
Project No.	2006-01-088

**SITE-SPECIFIC SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

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6. **Restriction on Minimum Distance to Nearest Property Boundary**  
The primary emission point of the portable rock crushing plant, which is the primary crusher, shall be located at least 200 feet from the nearest property boundary whenever it is operating at this site.
7. **Record Keeping Requirement**  
The operator(s) shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.
8. **Reporting Requirement**  
The operator(s) shall report to the Air Pollution Control Program (APCP) Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after any exceedances of the limitations imposed by this permit.

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#### **SITE-SPECIFIC SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

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Site ID No.: 131-0024  
Site Name: Vaughn Quarries  
Site Address: 14 Highway V, Bagnell, MO 65583  
Site County: Miller County, S8, T40N, R15W

1. **Best Management Practices**  
Lake Ozark Sand & Gravel, Inc. PORT - 0452 shall control fugitive emissions from all of the haul roads and stockpiles at this site by performing *Best Management Practices*, which include the usage of paving, chemical dust suppressants, or documented watering. These practices are defined in Attachment AA.
2. **National Ambient Air Quality Standards (NAAQS) Limitation for Particulate Matter Less Than Ten Microns in Diameter (PM<sub>10</sub>)**
  - A. The operator(s) for Lake Ozark Sand & Gravel, Inc. PORT - 0452's portable rock crushing plant (PORT - 0452) shall ensure, while operating at this site, that the ambient impact of PM<sub>10</sub> at or beyond the nearest property boundary does not exceed 150 µg/m<sup>3</sup> in any 24-hour period, in accordance with the Federal NAAQS requirements (40 CFR 50.6).
  - B. The total daily ambient impact of PM<sub>10</sub> at this site shall include the combined impact of the portable rock crushing plant and any ambient background concentration from installations or equipment located on the same site as the portable rock crushing plant.
  - C. To demonstrate compliance, the operator(s) shall maintain a daily record of material processed. For concurrent operation when other plant(s) are located at this site use Attachment A1, Daily Ambient PM<sub>10</sub> Impact Tracking Record, or other equivalent form(s) for this purpose
3. **Moisture Content Testing Requirement for Inherent Moisture Content**
  - A. The inherent moisture content of the rock will reduce particulate emissions. Lake Ozark Sand & Gravel, Inc. PORT – 0452 claimed the inherent moisture content of the processed rock to be greater than or equal to 1.5 wt.%, which shall be verified by testing.
  - B. Testing shall be conducted according to approved methods, such as those prescribed by the *American Society for Testing Materials (ASTM D-2216 or C-566)*, EPA AP-42 Appendix C.2, or other method(s) approved by the Director. Lake Ozark Sand & Gravel, Inc. PORT - 0452The first test shall be no later than 45 days after startup. Testing shall be conducted at least once every two years after the initial test, during the months of June through September, while the portable rock crushing plant is active at this site.
  - C. Test samples shall be obtained before processing (before entering the Primary Crusher) and after processing (prior to load-in to bins and/or storage piles). During the sample processing run only, any spray devices shall be turned off during the processing from which test samples are obtained. The written analytical report shall include the raw data and moisture content (wt.%) of each sample, the test date, and the original signature of the individual performing the test. Within 30 days of completion of the required tests, the report shall be submitted to the Enforcement section of the Air Pollution Control Program, and a copy shall be sent to the Regional Office.
  - D. If the inherent moisture content result of the first test is less than 1.5 wt.%, a second test must be performed within 30 days. If the result of the second test is less than 1.5 wt.%, Lake Ozark Sand & Gravel, Inc. PORT – 0452 shall apply for a new construction permit to account for the revised information or install wet spray devices on the affected units.

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Permit No.	
Project No.	2006-01-088

**SITE-SPECIFIC SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

4. Prohibition Against Concurrent Operations Without Further APCP Review
  - A. The portable rock crushing plant (PORT - 0452) is prohibited from operating whenever any other plant(s) are located at this site, except for **one of** the following two plants scenarios

**Scenario (1)**

- 1) Dredging Incorporated DBA Scott's concrete (Project # 2006-03-094)
- 2) Lake Ozark Washing Plant PORT - 0457
- 3) Lake Ozark Sand and Gravel PEP Screen PORT – 0548 (Project # 2006-01-090)

**Or**

**Scenario (2)**

- 1) Dredging Incorporated DBA Scott's concrete (Project # 2006-03-094)
- 2) Lake Ozark Washing Plant PORT - 0457
- 3) Lake Ozark Sand and Gravel CEC Screen PORT – 0545 (Project # 2006-01-091)

5. Restriction on Process Configuration of Primary Emission Point(s)  
The maximum hourly design rate of the plant is equal to the sum of the design rate(s) of the primary emission point(s). Lake Ozark Sand & Gravel, Inc. PORT – 0452 has designated the following unit(s) as the primary emission point(s) of the portable rock crushing plant: primary crusher. Bypassing the primary emission point(s) for processing is prohibited.
6. Restriction on Minimum Distance to Nearest Property Boundary  
The primary emission point of the portable rock crushing plant, which is the primary crusher , shall be located at least 575 feet from the nearest property boundary whenever it is operating at this site.
7. Record Keeping Requirement  
The operator(s) shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.
8. Reporting Requirement  
The operator(s) shall report to the Air Pollution Control Program (APCP) Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after any exceedances of the limitations imposed by this permit.



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Permit No.	
Project No.	2006-01-088

**SITE-SPECIFIC SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

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Site ID No.: 029-0039  
 Site Name: Odie Quarry  
 Site Address: 126 Kinderhook County Road, Brumley, MO 65017  
 Site County: Camden County, S24, T38N, R14W

1. Best Management Practices  
 Lake Ozark Sand & Gravel, Inc. PORT - 0452 shall control fugitive emissions from all of the haul roads and stockpiles at this site by performing Best Management Practices, which include the usage of paving, chemical dust suppressants, or documented watering. These practices are defined in Attachment AA.
2. Annual Emission Limit of Particulate Matter Less Than Ten Microns in Diameter (PM<sub>10</sub>)
  - A. The operator(s) shall ensure that Lake Ozark Sand & Gravel, Inc. PORT - 0452's portable rock crushing plant emits less than 50 tons of PM<sub>10</sub> into the atmosphere in any 12-month period.
  - B. To demonstrate compliance, the operator(s) shall maintain a daily record of material processed and PM<sub>10</sub>. Attachment B2, *Monthly PM<sub>10</sub> Emissions Tracking Record*, or other equivalent form(s), will be used for this purpose
3. Prohibition Against Concurrent Operations Without Further APCP Review  
 The portable rock crushing plant (PORT - 0452) is prohibited from operating whenever any other plant(s) expect with **either one** of the following plant(s):
  - A. Lake Ozark Sand and Gravel PEP Screen PORT – 0548 **or**
  - B. Lake Ozark Sand and Gravel CEC Screen PORT - 0545
4. Restriction on Process Configuration of Primary Emission Point(s)  
 The maximum hourly design rate of the plant is equal to the sum of the design rate(s) of the primary emission point(s). Lake Ozark Sand & Gravel, Inc. PORT – 0452 has designated the following unit(s) as the primary emission point(s) of the portable rock crushing plant: primary crusher. Bypassing the primary emission point(s) for processing is prohibited.
5. Restriction on Minimum Distance to Nearest Property Boundary  
 The primary emission point of the portable rock crushing plant, which is the primary crusher, shall be located at least 2,000 feet from the nearest property boundary whenever it is operating at this site.
6. Record Keeping Requirement  
 The operator(s) shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.
7. Reporting Requirement  
 The operator(s) shall report to the Air Pollution Control Program (APCP) Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after any exceedances of the limitations imposed by this permit.

## TECHNICAL REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT

### PROJECT DESCRIPTION

This Project is a combination of different solitary and concurrent operation of PORT – 0452 at 3 sites listed in table 4, The 3 sites listed in table 4 have been evaluated at different locations from the nearest property line.

Best Management Practices will be used at Connor, Vaughn and Odie Sites.

**Lake Ozark Sand and Gravel PEP Screen PORT – 0548 and Lake Ozark Sand and Gravel CEC Screen PORT – 0545 will not exist at the same location when operating concurrently with PORT - 0452**

Rock, composed of non-metallic minerals, is drilled/blasted, loaded into haul trucks, and transported to processing. Rock is processed through feeder(s), crusher(s), screen(s), conveyor(s), and bin(s). Processing equipment is powered with diesel engine(s). The emission points are listed in the attached spreadsheet summary. This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2]. The installation is located in Pulaski County, an attainment area for all criteria air pollutants.

**Table 1. Other Permits Issued for Connor Quarry Site**

Permit Number	Completed	Description
No Permits	-	Section 4 construction permit

### EMISSIONS EVALUATION

Criteria air pollutants will be emitted from this operation. The main air pollutant of concern is PM<sub>10</sub>. The potential emissions were calculated from the maximum hourly design rate (MHDR) of the equipment, appropriate emission factors, control device efficiencies, and the limiting operating hours at MHDR. The sources of the emission factors and control efficiencies are listed in the section "Permit Documents". Based on the conditioned potential emissions, the operation is considered a minor source under 10 CSR 10-6.060 section (6).

The portable rock crushing plant at **Odie Quarry** has an annual emission limit of less than 50 tons of PM<sub>10</sub> in any 12-month period. A composite PM<sub>10</sub> emission factor was developed for the portable rock crushing plant. The composite emission factor is incorporated into the monthly record keeping table, Attachment B2. If the conditioned potential emissions of PM<sub>10</sub> were 50 tons per year or greater, then the owner would be required to submit dispersion modeling results.

**Table 2: Emissions Summary (tons per year) at the initial site (Connor Quarry), Pulaski County, 200 – ft. distance from property line**

Air Pollutant	Regulatory De Minimis Levels	Existing Potential Emissions	Existing Actual Emissions (year EIQ)	Potential Emissions of the Application	**New Installation Conditioned Potential	Emission Factor (lb/ton)
PM <sub>10</sub>	15.0	N/A	N/A	25.57	21.69	N/A
SO <sub>x</sub>	40.0	N/A	N/A	1.38	1.17	N/A
NO <sub>x</sub>	40.0	N/A	N/A	21.06	17.86	N/A
VOC	40.0	N/A	N/A	1.72	1.46	N/A
CO	100.0	N/A	N/A	4.54	3.85	N/A
HAPs	10.0/25.0	N/A	N/A	0.02	0.02	N/A

Note: N/A = Not Applicable

\*\* Conditioned potential based on daily production limit from ambient impact analysis. Other pollutants proportionately reduced.

**Table 3: Emissions Summary (tons per year) at all sites**

Site ID NO.	Site Name	Air Pollutant	Regulatory De Minimis Levels	Potential Emissions of the Application	**New Installation Conditioned Potential	Emission Factor (lb/ton)
169-0039	Connor Quarry	PM <sub>10</sub>	15.0	25.57	21.69	N/A
		NOx	40.0	21.06	17.86	N/A
131-0024	Vaughn	PM <sub>10</sub>	15.0	38.32	23.55	N/A
		NOx	40.0	42.11	25.88	N/A
029-0039	Odie Quarry	PM <sub>10</sub>	15.0	73.82	<50	0.0674
		NOx	40.0	42.11	28.52	N/A

Note: N/A = Not Applicable; N/D = Not Determined

\*\* Conditioned potential based on daily production limit from ambient impact analysis. Other pollutants proportionately reduced.

### **AMBIENT AIR QUALITY IMPACT ANALYSIS**

Screening tools were used to evaluate the ambient air impact of the hourly emissions from this operation. The ambient impact at the initial site (Connor Quarry) was evaluated at a distance of 200 feet to the nearest property boundary. The ambient impact at this site shall not exceed the National Ambient Air Quality Standard (NAAQS) of 150 µg/m<sup>3</sup> of PM<sub>10</sub> at or beyond the nearest property boundary in any single 24-hour period. The screening tools were used to develop an ambient impact factor for the portable rock crushing plant. This ambient impact factor is incorporated into the daily record keeping table, Attachment A.

For sources agreeing to use Best Management Practices (BMPs), as defined in Attachment AA, haul roads and stockpiles are not modeled with screening tools. Instead, they are addressed as a background level of 20 µg/m<sup>3</sup> of PM<sub>10</sub>. To ensure conformity with NAAQS, the remaining process emissions are limited to an impact of less than 130 µg/m<sup>3</sup> of PM<sub>10</sub> at or beyond the nearest property boundary.

**Table 4: Ambient Air Quality Impact Analysis of PM<sub>10</sub>, 24-Hour Averaging Time**

Site ID NO.	Site Name	Operation	Ambient Impact Factor (µg/m <sup>3</sup> /ton)	Modeled Impact (µg/m <sup>3</sup> )	*Background (µg/m <sup>3</sup> )	NAAQS (µg/m <sup>3</sup> )	** Daily Production Limit (tons)
169-0039	Connor Quarry	Solitary	0.0255	130.00	20.00	150.00	5,089.00
131-0024	Vaughn	Concurrent	0.0099	36.36	78.12	150.00	3,687.50
029-0039	Odie Quarry	Concurrent	0.0092	55.00	95.00	150.00	6,000.00

\* Background PM10 level of 20.00 µg/m<sup>3</sup> from haul roads and stockpiles and from Concurrently Operating Plant(s).

\*\* The operator(s) must balance production among concurrently operating plants, with the ambient impact factors for each, such that NAAQS is not exceeded.

### **APPLICABLE REQUIREMENTS**

The owner is subject to compliance with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements.

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
- *Operating Permits*, 10 CSR 10-6.065
- No Operating Permit is required for this portable rock crushing plant.
- If this portable rock crushing plant remains at the initial site reviewed in this permit longer than 24 consecutive months, then the owner shall submit an Operating Permit Application. The Air Pollution Control Program must receive this application no later than 30 days after the exceedance of 24 months.
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-3.090
- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260
- None of the New Source Performance Standards (NSPS) apply to the proposed equipment.
- 40 CFR Part 60 Subpart "OOO", *Standards of Performance for Nonmetallic Mineral Processing Plants*, of the New Source Performance Standards (NSPS)

## **STAFF RECOMMENDATION**

On the basis of this review conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with/without special conditions.

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Samer Al-Shoukhi  
Environmental Engineer

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Date

## **PERMIT DOCUMENTS**

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, designating Lake Ozark Sand & Gravel, Inc. as the owner and operator of the installation.
- Environmental Protection Agency (EPA) AP-42, *Compilation of Air Pollutant Emission Factors; Volume I, Stationary Point and Area Sources, Fifth Edition*.
- Noyes Data Corp. book, Orlemann, et al. 1983, *Fugitive Dust Control*.
- EPA Factor Information Retrieval (FIRE) Version 6.21.
- Spreadsheet calculations of potential-to-emit and ambient impact.
- Southeast Regional Office Site Survey.
- Best Management Practices
- Add any additional source material here, (e.g., stack testing, etc.)

**Attachment A: Daily Ambient PM<sub>10</sub> Impact Tracking Record**  
**Lake Ozark Sand & Gravel, Inc. PORT - 0452 Rock Crushing Plant**  
**Solitary Operation**

Site ID: 169-0039  
 Site Name: Connor Quarries  
 Project Number: 2006-01-088  
 County, CSTR: Pulaski County (S30, T36N, R11W)  
 Primary Unit Size: 250 tph  
 Distance to Nearest Property Boundary: 200 feet

This sheet covers the period from \_\_\_\_\_ to \_\_\_\_\_ (Month, Day, Year) (Copy this sheet as needed.)

Date	Lake Ozark Sand & Gravel, Inc. PORT - 0452 Project # 2006-01-088			Plant Name: Plant ID: Permit #:			Plant Name: Plant ID: Permit #:			Plant Name: Plant ID: Permit #:			<sup>2</sup> Back-ground PM <sub>10</sub> Level (µg/m <sup>3</sup> )	<sup>3</sup> TOTAL PM <sub>10</sub> Level (µg/m <sup>3</sup> )
	Daily Production (tons)	Ambient Impact Factor (µg/m <sup>3</sup> /ton)	<sup>1</sup> Daily PM <sub>10</sub> Impact (µg/m <sup>3</sup> )	Daily Production (tons)	Ambient Impact Factor (µg/m <sup>3</sup> /ton)	<sup>1</sup> Daily PM <sub>10</sub> Impact (µg/m <sup>3</sup> )	Daily Production (tons)	Ambient Impact Factor (µg/m <sup>3</sup> /ton)	<sup>1</sup> Daily PM <sub>10</sub> Impact (µg/m <sup>3</sup> )	Daily Production (tons)	Ambient Impact Factor (µg/m <sup>3</sup> /ton)	<sup>1</sup> Daily PM <sub>10</sub> Impact (µg/m <sup>3</sup> )		
		0.0255		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0255		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0255		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0255		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0255		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0255		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0255		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0255		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0255		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0255		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0255		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0255		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0255		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0255		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0255		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0255		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0255		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0255		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0255		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	
		0.0255		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	

- Note 1: The Daily PM<sub>10</sub> Impact (µg/m<sup>3</sup>) for each plant is calculated by multiplying the Daily Production (tons) by the matching Ambient Impact Factor.
- Note 2: Background PM<sub>10</sub> Level (µg/m<sup>3</sup>) is from Haul Roads and Stockpiles
- Note 3: The TOTAL PM<sub>10</sub> Level (µg/m<sup>3</sup>) is calculated by summing the Daily PM<sub>10</sub> Ambient Impact(s) and the Background PM<sub>10</sub> Level. A TOTAL PM<sub>10</sub> Level of less than 150 µg/m<sup>3</sup> in any 24-hour period indicates compliance.

**Attachment A1: Daily Ambient PM<sub>10</sub> Impact Tracking Record**  
**Lake Ozark Sand & Gravel, Inc. PORT - 0452 Rock Crushing Plant**  
**Concurrent Operation**

Site ID No.: 131-0024  
 Site Name: Vaughn Quarries  
 Project Number: 2006-01-088  
 County, CSTR: Miller County (S8, T40N, R15W)  
 Primary Unit Size: 250 tph  
 Distance to Nearest Property Boundary: 575 feet

This sheet covers the period from \_\_\_\_\_ to \_\_\_\_\_ (Month, Day, Year) (Copy this sheet as needed.)

Date	Lake Ozark Sand & Gravel, Inc. PORT - 0452 Project # 2006-01-088			Lake Ozark Sand & Gravel, Inc. PORT – 0548 PEP Screening Plant Permit #:			Lake Ozark Sand & Gravel, Inc PORT – 0545 CEC Screening Plant Permit #:			Lake Ozark Sand & Gravel, Inc PORT – 0457 Washing Plant: Permit #:			<sup>2</sup> Back- ground PM <sub>10</sub> Level (µg/m <sup>3</sup> )	<sup>3</sup> TOTAL PM <sub>10</sub> Level (µg/m <sup>3</sup> )
	Daily Production (tons)	Ambient Impact Factor (µg/m <sup>3</sup> /ton)	<sup>1</sup> Daily PM <sub>10</sub> Impact (µg/m <sup>3</sup> )	Daily Production (tons)	Ambient Impact Factor (µg/m <sup>3</sup> /ton)	<sup>1</sup> Daily PM <sub>10</sub> Impact (µg/m <sup>3</sup> )	Daily Production (tons)	Ambient Impact Factor (µg/m <sup>3</sup> /ton)	<sup>1</sup> Daily PM <sub>10</sub> Impact (µg/m <sup>3</sup> )	Daily Production (tons)	Ambient Impact Factor (µg/m <sup>3</sup> /ton)	<sup>1</sup> Daily PM <sub>10</sub> Impact (µg/m <sup>3</sup> )		
		0.0099			0.0040			0.0047			0.0071		78.12	
		0.0099			0.0040			0.0047			0.0071		78.12	
		0.0099			0.0040			0.0047			0.0071		78.12	
		0.0099			0.0040			0.0047			0.0071		78.12	
		0.0099			0.0040			0.0047			0.0071		78.12	
		0.0099			0.0040			0.0047			0.0071		78.12	
		0.0099			0.0040			0.0047			0.0071		78.12	
		0.0099			0.0040			0.0047			0.0071		78.12	
		0.0099			0.0040			0.0047			0.0071		78.12	
		0.0099			0.0040			0.0047			0.0071		78.12	
		0.0099			0.0040			0.0047			0.0071		78.12	
		0.0099			0.0040			0.0047			0.0071		78.12	
		0.0099			0.0040			0.0047			0.0071		78.12	
		0.0099			0.0040			0.0047			0.0071		78.12	
		0.0099			0.0040			0.0047			0.0071		78.12	
		0.0099			0.0040			0.0047			0.0071		78.12	
		0.0099			0.0040			0.0047			0.0071		78.12	
		0.0099			0.0040			0.0047			0.0071		78.12	
		0.0099			0.0040			0.0047			0.0071		78.12	
		0.0099			0.0040			0.0047			0.0071		78.12	
		0.0099			0.0040			0.0047			0.0071		78.12	
		0.0099			0.0040			0.0047			0.0071		78.12	
		0.0099			0.0040			0.0047			0.0071		78.12	
		0.0099			0.0040			0.0047			0.0071		78.12	

- Note 1: The Daily PM<sub>10</sub> Impact (µg/m<sup>3</sup>) for each plant is calculated by multiplying the Daily Production (tons) by the matching Ambient Impact Factor.
- Note 2: Background PM<sub>10</sub> Level of 20 µg/m<sup>3</sup> is from Haul Roads and Stockpiles and 58.12 µg/m<sup>3</sup> from Dredging Incorporated DBA Scott's concrete
- Note 3: The TOTAL PM<sub>10</sub> Level (µg/m<sup>3</sup>) is calculated by summing the Daily PM<sub>10</sub> Ambient Impact(s) and the Background PM<sub>10</sub> Level. A TOTAL PM<sub>10</sub> Level of less than 150 µg/m<sup>3</sup> in any 24-hour period indicates compliance.

**Attachment B2: Monthly PM<sub>10</sub> Emissions Tracking Record**  
**Lake Ozark Sand & Gravel, Inc. PORT – 0452 Portable Rock Crushing Plant**

Site ID No.: 029-0039  
Site Name: Odie Quarry  
Project Number: 2006-01-088  
County, CSTR: Camden County (S24 T38N, R14W)  
Primary Unit Size: 250 tph  
Distance to Nearest Property Boundary: 2,000feet

This sheet covers the period from \_\_\_\_\_ to \_\_\_\_\_ (Month, Day, Year)  
(Copy this sheet as needed.)

[illegible]

Note 1: The Monthly Emissions (lbs) are calculated by multiplying the Monthly Production (tons) by the Composite Emission Factor (lbs/ton).

Note 2: The Monthly Emissions (tons) are calculated by dividing the Monthly Emissions (lbs) by 2,000.

Note 3: The 12-Month Emissions (tons/year) are a rolling total calculated by adding the Month's Emissions (tons) to the Monthly Emissions (tons) of the previous eleven (11) months. A total of less than **50** tons in any consecutive 12-month period indicates compliance.

## Attachment AA: Best Management Practices (BMPs)- Construction Industry Fugitive Emissions

Construction Industry Sites covered by the Interim Relief Policy shall maintain Best Management Control Practices (BMPs) for fugitive emission areas at their installations when in operation. Options for BMPs are at least one of the following:

### For Haul Roads:

1. Pavement of Road Surfaces –
  - A. The operator(s) may pave all or any portion of the haul roads with materials such as asphalt, concrete, and/or other material(s) after receiving approval from the program. The pavement will be applied in accordance with industry standards for such pavement so as to achieve “Control of Fugitive Emissions<sup>1</sup>” while the plant is operating.
  - B. Maintenance and/or repair of the road surface will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
  - C. The operator(s) shall periodically water, wash and/or otherwise clean all of the paved portions of the haul road(s) as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
2. Usage of Chemical Dust Suppressants –
  - A. The operator(s) shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to all the unpaved portions of the haul roads. The suppressant will be applied in accordance with the manufacturer’s suggested application rate (if available) and re-applied as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
  - B. The quantities of the chemical dust suppressant shall be applied, re-applied and/or maintained sufficient to achieve control of fugitive emissions from these areas while the plant is operating.
  - C. The operator(s) shall record the time, date and the amount of material applied for each application of the chemical dust suppressant agent on the above areas. The operator(s) shall keep these records with the plant for not less than five (5) years, and the operator(s) shall make these records available to Department of Natural Resources personnel upon request.
3. Usage of Documented Watering –
  - A. The operator(s) shall control the fugitive emissions from all the unpaved portions of the haul roads at the installation by consistently and correctly using the application of a water spray. Documented watering will be applied in accordance with a recommended application rate of 100 gallons per day per 1,000 square feet of unpaved/untreated surface area of haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating. For example, the operator(s) shall calculate the total square feet of unpaved vehicle activity area requiring control on any particular day, divide that product by 1,000, and multiply the quotient by 100 gallons for that day.
  - B. The operator(s) shall maintain a log that documents daily water applications. This log shall include, but is not limited to, date and volumes (e.g., number of tanker applications and/or total gallons used) of water application. The log shall also record rationale for not applying water on day(s) the plant is in operation (e.g., meteorological situations, precipitation events, freezing, etc.)
  - C. Meteorological precipitation of any kind, (e.g. a quarter inch or more rainfall, sleet, snow, and/or freeze thaw conditions) which is sufficient in the amount or condition to achieve control of fugitive emissions from these areas while the plant is operating.
  - D. Watering may also be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads. The operator(s) shall record a brief description of such events in the same log as the documented watering.
  - E. The operator(s) shall record the date and the amount of water applied for each application on the above areas. The operator(s) shall keep these records with the plant for not less than five (5) years, and the operator(s) shall make these records available to Department of Natural Resources personnel upon request.

<sup>1</sup> For purposes of this document, Control of Fugitive Emissions means to control particulate matter that is not collected by a capture system and visible emissions to the extent necessary to prevent violations of the air pollution law or regulation. (Note: control of visible emission is not the only factor to consider in protection of ambient air quality.)



**For Vehicle Activity Areas around Open Storage Piles:**

1. Pavement of Stockpile Vehicle Activity Surfaces –
  - A. The operator(s) may pave all or any portion of the vehicle activity areas around the storage piles with materials such as asphalt, concrete, and/or other material(s) after receiving approval from the program. The pavement will be applied in accordance with industry standards for such pavement so as to achieve control of fugitive emissions while the plant is operating.
  - B. Maintenance and/or repair of the road surface will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
  - C. The operator(s) shall periodically water, wash and/or otherwise clean all of the paved portions of the vehicle activity areas around the storage piles as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
2. Usage of Chemical Dust Suppressants –
  - A. The operator(s) shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to all the vehicle activity areas around the open storage piles. The suppressant will be applied in accordance with the manufacturer's suggested application rate (if available) and re-applied as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
  - B. The quantities of the chemical dust suppressant shall be applied, re-applied and/or maintained sufficient to achieve control of fugitive emissions from these areas while the plant is operating.
  - C. The operator(s) shall record the time, date and the amount of material applied for each application of the chemical dust suppressant agent on the above areas. The operator(s) shall keep these records with the plant for not less than five (5) years, and the operator(s) shall make these records available to Department of Natural Resources personnel upon request.
3. Usage of Documented Watering –
  - A. The operator(s) shall control the fugitive emissions from all the vehicle activity areas around the storage piles at the installation by consistently and correctly using the application of a water spray. Documented watering will be applied in accordance with a recommended application rate of 100 gallons per day per 1,000 square feet of unpaved/untreated surface area of vehicle activity areas around the storage piles as necessary to achieve control of fugitive emissions from these areas while the plant is operating. (Refer to example for documented watering of haul roads.)
  - B. The operator(s) shall maintain a log that documents daily water applications. This log shall include, but is not limited to, date and volumes (e.g., number of tanker applications and/or total gallons used) of water application. The log shall also record rationale for not applying water on day(s) the plant is in operations (e.g., meteorological situations, precipitation events, freezing, etc.)
  - C. Meteorological precipitation of any kind, (e.g. a quarter inch or more rainfall, sleet, snow, and/or freeze thaw conditions) which is sufficient in the amount or condition to achieve control of fugitive emissions from these areas while the plant is operating.
  - D. Watering may also be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads. The operator(s) shall record a brief description of such events in the same log as the documented watering.
  - E. The operator(s) shall record the date and the amount of water applied for each application on the above areas. The operator(s) shall keep these records with the plant for not less than five (5) years, and the operator(s) shall make these records available to Department of Natural Resources personnel upon request.

Mr. Tim Duncan  
President  
Lake Ozark And & Gravel, Inc.  
14 Highway V  
Eldon, MO 65026

RE: New Source Review Permit - Project Number: 2006-01-088

Dear Mr. Duncan:

Enclosed with this letter is your New Source Review permit. Please review your permit carefully and note the special conditions, if any, and the requirements in your permit.

Operation in accordance with the conditions and requirements in your permit, the New Source Review application submitted for project 2006-01-088, and your amended operating permit, if required, is necessary for continued compliance. Please review your amended operating permit, as it will contain all applicable requirements for your portable rock crushing plant, including any special conditions from your New Source Review permit.

The section of the permit entitled "Technical Review of Application for Authority to Construct" should not be separated from the main portion of your permit. The entire permit must be retained in your files. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

Mr. Tim Duncan  
Page Two

If you have any questions regarding this permit, please do not hesitate to contact me at (573) 751-4817, or you may write to the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, Missouri 65102. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B Hale.  
Initial Review Unit Chief

KBH:saa

Enclosures

c: Southeast Regional Office  
PAMS File: 2006-01-088

Permit Number: